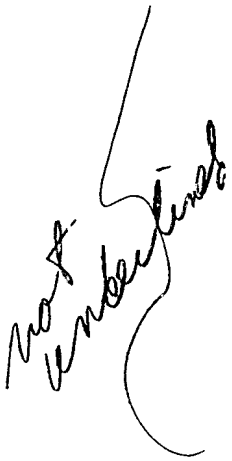

55. A viscoelastic composition for injection into a human eye, the viscoelastic composition comprising hydroxypropylmethylcellulose in a physiological salt solution,

the hydroxypropylmethylcellulose having an average molecular weight greater than about 375,000 but less than about 420,000 and being present in a concentration from about 2.0% to about 2.5%,

the composition having a viscosity from about 25,000 centipoise to about 40,000 centipoise, being free of particulate matter and gels greater than 0.5 μm in diameter and being pyrogen free and nontoxic.

56. The viscoelastic composition of claim 55 wherein the concentration of the hydroxypropylmethylcellulose is about 2.3%, the average molecular weight of the hydroxypropylmethylcellulose is about 409,800 and the zero shear viscosity of the composition is about 40,000 centipoise. --.

REMARKS

Claims 1-30 are pending in the present application. By this amendment, claims 31-56 are added. By her Office Action dated April 25, 2000, the Examiner rejected claims 1, 13, 25, and 27-30, and indicated that claims 2-12, 14-24, and 26 were withdrawn from consideration. By telephonic interview on August 8, 2000, the Examiner stated that her assertion of withdrawn claims was in error, and that claims 1-30 were properly pending.

Applicant acknowledges with appreciation the telephonic interview granted by the Examiner on August 8, 2000. In that interview, the Examiner invited applicant to direct her to prior art describing the problem with prior art solutions of hydroxypropylmethylcellulose (HPMC) for ophthalmic use, and indicated that such a showing would overcome her bases for rejection. Specifically, the problem was that the prior art HPMC solutions, despite their relatively low viscosity, contained unacceptable levels of contaminants. As noted at column 3 of U.S. Patent No. 5,422,376, to which this reissue application pertains (the "parent patent"), it is noted:

> Rosen states that current attempts to filter HPMC have been ineffective and 'it seems to be impossible to prepare HPMC solutions for clinical use without a degree of particulate vegetable matter content.'

Lines 1-4 quoting Rosen, "The use of hydroxypropylmethylcellulose in extracapsular cataract extraction with intraocular lens implantation," Am J Ophthalmology 103:727 (1987) (reference BK submitted under applicant's Information Disclosure Statement dated June 5, 1997) (Emphasis added). Additionally, for the Examiner's convenience applicant encloses a copy of another reference, (reference BL submitted with applicant's June 5, 1997, Information Disclosure Statement): Rosen et al., "Some Observations on Hydroxypropylmethylcellulose" Viscoelastic Materials Vision and Visual Health Care, 2:1-7 (1986). This 1986 article describes the testing of numerous samples of HPMC from various sources. After noting significant contaminants in all samples, the authors concluded "that it has proved virtually impossible for any supplier to achieve this [removal of the undesirable particles, "for example, by filtration"]." Pages 4 and 5 (Emphasis added).

Moreover, the authors note that the existence of these contaminants in the HPMC solutions are potentially hazardous. Without exception, the HPMC solutions described by Rosen et al. are relatively low viscosity solutions comprised of low molecular weight HPMC. Those skilled in the art, had they desired high viscosity HPMC, would have expected even greater contaminant problems and greater filtering obstacles (See, Parent patent, col. 3, lines 53-58). Applicant submits therefore that the high viscosity HPMC solutions of the present invention are both novel and non-obvious over the low viscosity solutions described in the prior art.

Neither Fechner nor Hazariwala et al. cited by the Examiner suggest that the high viscosity HPMC solutions of the present invention (i.e. free of harmful particulates) were even possible, much less do they enable one skilled in the art to prepare such solutions. These patentability issues were thoroughly aired in the prosecution of the parent patent, the claims of which were allowed over the same art. As noted in applicant's Response and Amendment of April 16, 1999, the HPMC solution described by Hazariwala et al., like that of Fechner, exhibits a radically lower viscosity than that of the present claims.

For the Examiner's convenience, copies of the following Declarations submitted during the prosecution of the parent patent are attached hereto and by this reference incorporated herein:

1. Declaration of Bradford C. Webb Submitted Under 37 CFR 1.132;
2. Declaration of Richard G. Livernois Submitted Under 37 CFR 1.132; and
3. Declaration of John D. Hunkeler Submitted Under 37 CFR 1.132.

These declarations further support the significant differences between the prior art HPMC solutions and the claimed solutions. Prior art ophthalmic HPMC solutions exhibited viscosities in the 3000 to 4000 centipoise range, while the HPMC of the present invention has a viscosity in excess of 15,000 centipoise. See Webb Declaration, para. 6; Livernois Declaration, para. 9; and Hunkeler Declaration, para. 13. These prior art solutions, because of their low viscosity, are unable to adequately maintain the corneal dome of the eye during cataract surgeries. Id.

A second problem with these prior art solutions is the presence of harmful particulate matter that could affect the clarity of the solution and could also result in dangerous intraocular pressure spikes. Webb Declaration, paras. 7-8; Livernois Declaration, paras. 10-11; and Hunkeler Declaration, paras. 14-15.

Arguably, one skilled in the art would know that viscosity of an HPMC solution could be increased by increasing either the concentration or the molecular weight of the HPMC. They would also appreciate, however, the inverse relationship between viscosity and filterability: the higher the viscosity, the more difficult it would be to remove particulate matter by filtration. It is to this problem that the present invention is addressed.

The novel HPMC compositions of the present invention overcome both of the shortcomings of the prior art. The presently claimed HPMC solutions possess sufficient viscosity to maintain the corneal dome during surgery, and at the same time, are substantially free of harmful particulate material that is believed to be responsible for postoperative intraocular pressure spikes. See Hunkeler Declaration, para. 17. HPMC solutions having these characteristics are neither disclosed nor

suggested by the cited art. For the foregoing reasons, applicant submits that the previously pending claims are now in condition for allowance.

For the same reasons, newly added claims 31-56 are also believed to be allowable. As the Examiner will appreciate from their format, claims 31-56 are identical in the substance to the allowed and issued claims of the parent patent; the only difference being the re-numbering of the original claims. They correspond to claims 1-26, but contain an additional limitation directed to the size of the particulate matter and gels and the corresponding filter pore size, i.e. 0.5μ. These claims, which are narrower in scope than corresponding claims 1-26, could have been written as dependent claims therefrom. They are presented in their current form to facilitate their review by the Examiner.

The added claims contain no new matter and are fully supported by the specification. It is respectfully requested, therefore, that the amendment adding new claims be entered and allowed. The Commissioner is authorized to charge the appropriate fee for the three (3) additional independent claims and the twenty-three (23) dependent claims to Deposit Account No. 01-0682.

The requested showing having been made applicant respectfully requests the Examiner's favorable reconsideration in the form of a notice of allowance for all claims.

In view of the fact that this application is under final rejection, applicant respectfully requests that the Examiner call the undersigned before the expiration of the applicable six (6) month time period should she have any questions regarding the preceding amendments and arguments.

Respectfully submitted,
ALCON LABORATORIES, INC.

Date: 9/19/00

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